

丽蝇科尼虬蝇属研究并记一新种（双翅目，丽蝇科）

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摘 要 记述了丽蝇科 Calliphoridae 尼虬蝇属 *Nepalonesia* Kurahashi *et* Thapa, 1994 的所有种类，共 9 种，其中包括 1 新种：突腹尼虬蝇 *N. ventrexerta* sp. nov., 均分布于东洋区。文中编制了已知种的检索表，详细描述了新种形态特征及比较特征。模式标本藏于中国科学院上海植物生理生态研究所昆虫博物馆。
关键词 双翅目，丽蝇科，乌丽蝇族，尼虬蝇属，新种，中国。
中图分类号 Q969.453.2

尼虬蝇属 *Nepalonesia* 为 Kurahashi *et* Thapa 于 1994 年创立，当时含 2 种：普山尼虬蝇 *N. pulchokii* Kurahashi *et* Thapa（模式种）和筱永尼虬蝇 *N. shinonagai* Kurahashi *et* Thapa，该文作者同时指出，产于中国西南部的 4 种虬蝇，即毛腹虬蝇 *Melinda dasystemita* Chen, Deng *et* Fan, 1992，驼叶虬蝇 *M. gibbosa* Chen, Deng *et* Fan, 1992，贡嘎山虬蝇 *N. gonggashanensis* Chen *et* Fan, 1992 及小黑虬蝇 *N. nigrella* Chen, Li *et* Zhang, 1988 也应归于该属；之后，冯炎（2002）记述了该属中的 1 种：范氏尼虬蝇 *N. fanyidei* Feng；作者根据雄第 5 腹板及体表特征认为鳞尾变丽蝇 *Paradichosia pygialis* Villeneuve, 1937 也应移入尼虬蝇属 *Nepalonesia*；本文再记述 1 个新种：突腹尼虬蝇 *N. ventrexerta* sp. nov.，这样，本属已增至 9 种，其中 2 种仅见于尼泊尔，另有 7 种为中国所特有；并编制了分种检索表。模式标本存于中国科学院上海植物生理生态研究所昆虫博物馆。

尼虬蝇属 *Nepalonesia* Kurahashi *et* Thapa, 1994
Japan, J. Sanit. Zool., 45, Suppl.: 189. Type species: *Nepalonesia pulchokii* Kurahashi *et* Thapa, 1994 (by original designation).

外部形态 体型中等；雄眼裸或具疏微毛，合生或接近，雌眼离生；颜无颜脊，口前缘稍突出，侧颜上部具小毛；触角芒羽状；除第 5 腹板外体无异色软毛；胸部无明显斑和条；中鬃 1+ 3，背中鬃 2+（1~ 3），翅内鬃 0+ 2，肩后鬃 1: 1，腹侧片鬃 1: 1；前胸基腹片、后气门前肋及翅后坡具毛；前胸侧板（有时具几根小毛）、下侧片裸；后瓣旁簇及听膜簇（有时具数个黑毛）缺如，前瓣旁簇存在；后气门下缘无鬃。翅亚前缘骨片具毳毛，径脉结节背腹面具毛，M 脉端段深弧形向前弯曲；下腋瓣具小叶，背面裸。足棕或黑，中胫具前腹鬃及前背鬃各

1，后鬃 2。胸、腹部底色均暗，粉被弱，具金属光泽；腹部各腹板均不被相应的背板覆盖，第 1 腹板具毛，第 2 腹板长大于宽，第 5 腹板突立于腹下，其侧叶端部向后延伸超过腹部末端，侧叶密生多行细长或末端弯曲的长毛，有时部分毛的末端呈圆形或鳞片形垂饰状。
雄性尾器 第 9 背板略短；肛尾叶端部收狭，相互不愈合；侧尾叶侧面观常宽于肛尾叶；前阳基侧突近于直杆状；基阳体短直，阳基后突长于基阳体，着生于基阳体的基位或亚基位；侧阳体细长，端段或多或少向前弯曲，大部分分离。
分布：中国（四川），尼泊尔。

本属原记载隶属丽蝇族 Calliphorini，后改隶乌丽蝇族 Melanonyini（冯炎，2002），与变丽蝇属 *Paradichosia* 和虬蝇属 *Melinda* 近缘，与后者尤为相近，但本属有下列特征可以鉴别：雄第 5 腹板突立于腹下，而后者则平卧于腹下；雄前阳基侧突细长，呈直杆状，末端圆钝，而后者略呈前倾的三角形，末端尖削；下阳体后面观较发达并略展向两侧，而后者则不如前述。

尼虬蝇属分种检索表 (♂ ♀)

1 下后头毛棕黄色；前胸侧板中央凹陷具毛	.....	小黑尼虬蝇 <i>N. nigrella</i>
下后头毛黑	.....	2
2 第 5 腹板侧叶内缘具淡色至红色密长毛	.....	3
第 5 腹板侧叶内缘具黑色密长毛，中鬃大多 1+（1~ 2）	.....	9
3 前中鬃 2；前胸侧板中央凹陷具毛	.....	4
前中鬃 1，如为 2 则第 5 腹板侧叶内缘具不太长的黄色毛	.....	5
4 第 5 腹板侧叶内缘细毛极长密；肛尾叶分离段与愈合段的长度比为 4: 3；侧尾叶侧面观很宽，长宽比为 28: 17	.....	毛腹尼虬蝇 <i>N. dasystemita</i>
第 5 腹板侧叶内缘毛不很长密；肛尾叶分离段与愈合段的长度比为 11: 15；侧尾叶侧面观长宽比为 26: 9	.....	贡嘎山尼虬蝇 <i>N. gonggashanensis</i>

- 5 前胸侧板中央凹陷具毛 6
前胸侧板中央凹陷裸 7
- 6 翅内鬃 0+ 3; 肛尾叶侧面观中部呈驼背状弯曲
..... 驼叶尼蚜蝇 *N. gibbosa*
翅内鬃 0+ 2, 肛尾叶侧面观不如上述
..... 贡嘎山尼蚜蝇 *N. gonggashanensis*
- 7 第 5 腹板侧叶具密长毛, 其中部分毛的端部呈球形或鳞片形的垂饰状 8
第 5 腹板侧叶的密长毛常形, 其端部无垂饰状装备
..... 突腹尼蚜蝇, 新种 *N. ventrexcerta* sp. nov.
- 8 足黑; 翅内鬃 0+ 2, 中胫具后鬃 1 范氏尼蚜蝇 *N. fanzidei*
足棕色, 翅内鬃 0+ 1, 中胫无后鬃 鳞尾尼蚜蝇 *N. pygalis*
- 9 第 5 腹板侧叶短于基部, 后端圆钝而宽; 侧尾叶侧面观端段与中段等宽, 末端圆, 不向前弯 筱永尼蚜蝇 *N. shinonagai*
第 5 腹板侧叶长于基部, 向端部去渐狭, 但末端圆而不尖; 侧尾叶侧面观端段明显狭于中段, 即往端部去变狭的同时渐向前弯 普山尼蚜蝇 *N. pulchokji*

突腹尼蚜蝇, 新种 *Nepalonesia ventrexcerta* sp. nov.
(图 1~ 6)

雄 体长 5.5~ 6.0 mm; 体黑。眼裸, 额略狭于前单眼宽, 间额在最狭处消失; 侧额线状; 侧额、侧颜具青灰粉被, 在侧额外侧下半段内具下眶鬃 7~ 8; 侧颜上部具几根微毛, 侧颜为触角第 3 节宽的 1.2 倍; 触角底色黑, 具灰白粉被, 外观呈暗灰色, 其长为宽的 2.5 倍, 亦为第 2 节长的 2 倍, 芒长羽

状, 芒端半裸; 中颜板凹入, 颜脊痕迹状; 口前缘略前于额前缘, 或在同一水平线上; 颊毛及下后头毛黑, 颊隆面不达口前缘, 颊高为眼高的 1/4; 下颏须黑, 细长; 前颏长为高的 5 倍, 唇瓣大。胸部底色暗, 覆青灰粉被, 斑和条不明显; 前盾片中部具小毛 8 列, 中鬃 1+ 3, 背中鬃 2+ 3, 翅内鬃 0+ 2, 肩后鬃 1, 翅前鬃为后背侧片鬃长的 1.5 倍; 小盾片与胸同色, 背中线条略短于小盾沟长, 前缘中部具 1 黑斑, 缘鬃外侧具小毛 2~ 3 列, 侧面及腹侧缘具毛, 腹面中部裸; 前胸侧板中央凹陷及后气门前肋裸, 前胸基腹片、翅后坡及腋侧片具毛; 气门中等大, 棕褐色; 腹侧片鬃 1: 1。翅棕黄, 半透明; 翅肩鳞黑, 前缘基鳞黄至暗棕; 前缘脉腹面除基部 2 段具毛外余裸; 前缘刺小, 干径脉裸, 径脉结节背腹面具毛, R_{4+5} 脉基段背、腹面均裸, M 脉端段呈深弧形弯曲, 角后段约为角前段长的 1.5 倍, $2R_s$ 室开口于翅尖之前, 开口宽度略狭于 $r-m$ 横脉长, $dm-a$ 横脉“S”形, 甚倾斜; 上腋瓣淡棕, 下腋瓣棕褐, 家蝇型, 背面裸; 前瓣旁簇存在, 后瓣旁簇及听膜族均缺如。平衡棒棕色。各足全黑; 前股具后背、后腹鬃各 1 列, 2 鬃列之间具 4~ 5 列细刚毛; 前胫具前背鬃 2 (细), 后鬃 1; 中股具中位前鬃 1、后腹鬃 1 列 (以基半部 4 个较长大); 中胫在端半具

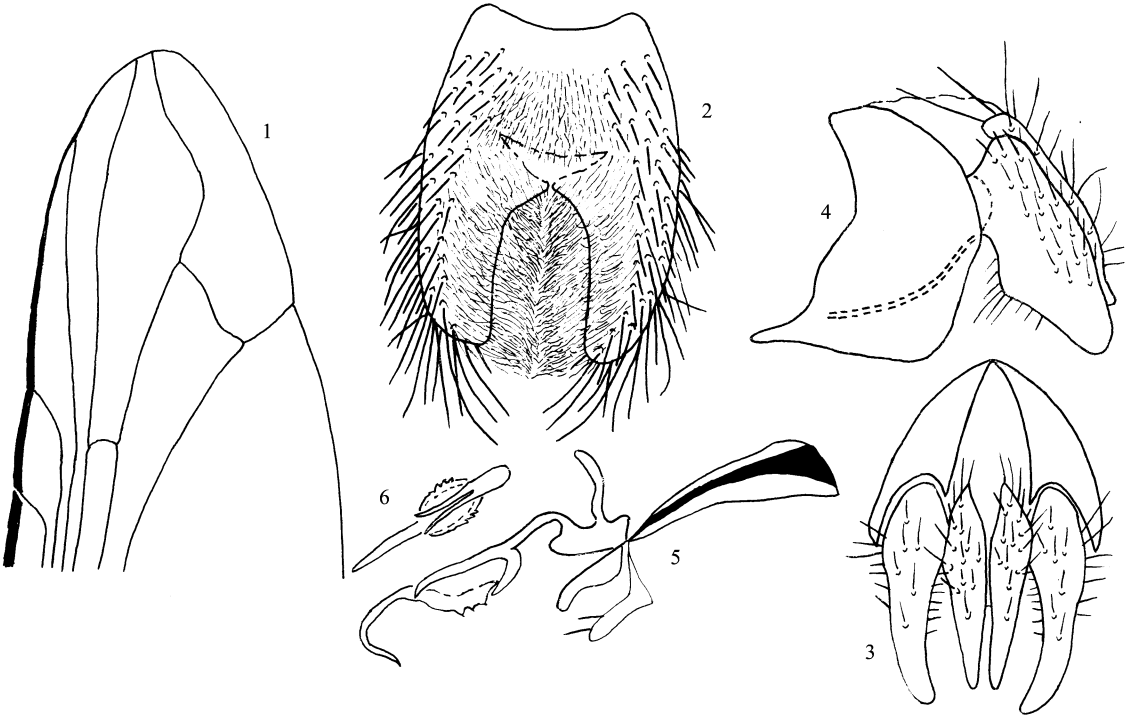


图 1~ 6 突腹尼蚜蝇, 新种 *Nepalonesia ventrexcerta* sp. nov. ♂
1 左翅背面端半部 (apical half of left wing, dorsal view) 2 第 5 腹板腹面 (5th sternite, ventral view) 3 尾叶后面 (anal cerci and surstyli, posterior view) 4 尾叶侧后 (anal cerci and surstyli, lateral view) 5 外生殖器侧面 (genitalia, lateral view) 6 阳茎后面 (aedeagus, posterior view)

前背、前腹鬃各 1, 后鬃 2; 后足基节后面裸; 后股具疏的前腹鬃和后腹鬃 (以基半部较长大) 各 1 列, 密的前背鬃 1 列; 后胫具前腹鬃 4~5, 前背鬃 3, 后背鬃 2; 跗节正常。腹部暗黑色, 具金属光彩和薄灰白粉被; 第 3~5 背板具窄中条和后缘鬃; 第 6 背板后缘具毛; 第 1 腹板具毛, 第 2 腹板长略大于宽, 第 1~5 腹板外露, 不被相应的背板腹缘所掩盖, 第 5 腹板突立于腹下, 侧叶较长, 其端部超过腹部末端, 侧叶沿内缘全长度内密具端部弯曲的淡色长毛, 干标本腹面观, 第 5 腹板两侧叶间之淡色毛呈卷曲状相互紧密靠拢, 表面如平板, 土黄色。雄肛尾叶长明显短于侧尾叶; 阳体: 阳基后突着生于基阳体亚基部, 长于基阳体; 前阳基侧突直杆状; 下阳体后面观可见向两侧扩展。

雌 未知。

正模 ♂, 四川二郎山干海子, 2780 m, 1988-07-03; 副模 1 ♂, 四川雅安金凤山, 860 m, 1983-08-21; 1 ♂, 四川康定跑马山, 2800 m, 1983-07-10, 冯炎采。

生态 于炎热的夏季晴天采自山间茶马古道旁之华西箭竹 *Fargesia nitida* 叶面及松树 *Pinus* sp. 林中的生有苔藓植物的石砾上。小环境气温 23℃~32℃, 地表温度 28℃~40℃。

新种与范氏尼虬蝇 *Nepalonesia fanzidei* Feng, 2002 相似, 新种第 5 腹板侧叶内缘全长度内密长毛的端部无圆形或椭圆形垂饰状附属装备, 后者具有; 后胫前腹鬃 4~5, 后者为 2; 阳茎端阳体侧面观呈钩状弯曲, 后者仅轻微前倾。新种亦与普山尼虬蝇 *Nepalonesia pulchokii* Kurahashi et Thapa, 1994 相似, 新

种第 5 腹板侧叶内缘毛淡色, 后者黑色; 雄肛尾叶后面观明显短于侧尾叶, 后者长于侧尾叶; 后胫前腹鬃 4~5, 后者为 2~3。

词源: 新种名为拉丁词 “*ventr*” 和 “*excert*” 组合而成, 依其腹部第 5 腹板突立于腹下而命名。

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STUDIES ON THE GENUS NEPALONESIA WITH DESCRIPTION OF A NEW SPECIES (DIPTERA, CALLIPHORIDAE)

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Abstract The genus *Nepalonesia* Kurahashi et Thapa, 1994 belongs to the tribe Melanomyini of Calliphoridae. Up to now, 7 species (including a new species) have been found in South West China, namely *N. daysternita* (Chen, Deng et Fan, 1992), *N. fanzidei* Feng, 2002, *N. gibbosa* (Chen, Deng et Fan, 1992), *N. gonggashanensis* (Chen et Fan, 1992), *N. nigrella* (Chen, Li et Zhang, 1988), *N. pygialis* (Villeneuve, 1937) comb. nov. and *N. ventrexcerta* sp. nov., as well as 2 species from Nepal, namely *N. pulchokii* Kurahashi et Thapa, 1994 and *N. shinonagai* Kurahashi et Thapa, 1994.

In this paper, a key to all the known species of the

genus is given; one new species, *N. ventrexcerta* sp. nov., is described and figured from China. Type specimens are kept in the Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai (200032), China.

A key to species of the genus *Nepalonesia* (♂ ♂)

1. Metacephala with brownish yellow hairs; propisternal depression haired *N. nigrella*
Metacephala black haired 2
2. Lateral lobes of 5th sternite densely clothed with pale yellow to reddish hairs by inner margins; ac mostly (1~2) + 3 3
Lateral lobes of 5th sternite densely clothed with black hairs by inner margins; ac 1+ (1~2) 9
3. Pre ac 2, propisternal depression haired 4

- Pre ac* 1, if it is 2, then the lateral lobes of 5th sternite densely clothed with yellow hairs by inner margins not quite long 5
4. Lateral lobes of 5th sternite densely clothed with very long fine hairs by inner margins; cerci with separated part to fused part in the ratio of 4:3 in length; surstylus with length to breadth in the ratio of 28:17 in lateral view *N. dasyspernita*
Lateral lobes of 5th sternite densely clothed with fine hairs not so long; cerci with separate part to fused part in the ratio of 11:15 in length; surstylus with length to breadth in the ratio of 26:9 in lateral view *N. gonggashanensis*
5. Proepisternal depression haired 6
Proepisternal depression bare 7
6. Intraalar setae 0+3; in profile, cerci bent forward in an obtuse angle submedially *N. gibbosa*
Intraalar setae 0+2; in profile, cerci gently curved forward preapically *N. gonggashanensis*
7. Lateral lobes of 5th sternite densely clothed with long fine hairs, many of them with small bulb like or scale like tip as a pendant by inner margins 8
Lateral lobes of 5th sternite densely clothed with long fine hairs in usual form, without pendant formed ones by inner margins; *ia* 0+1, mid tibia with 1 *p* *N. ventrexerta* **sp. nov.**
8. Legs black; *ia* 0+2, mid tibia with 1 *P* *N. fanzidei*
Legs brown; *ia* 0+1, mid tibia with 0 *P* *N. pygalis*
9. 5th sternite with broad and blunt lateral lobes, which shorter than the basal part; surstylus in profile with apical part as wide as the middle part, rounded apically and not curved *N. shinonagai*
5th sternite with elongate and tapered lateral lobes, which longer than the basal part; surstylus in profile gradually narrowed toward apex and gently curved forward *N. pulchokii*

Nepalonesia ventrexerta sp. nov. (Figs 1-6)

♂. Body length 5.5-6.0 mm. Body black. Eyes bare, frons narrower than anterior ocellus, frontal vitta (interfrontalia) obsolete at narrowest part, fronto-orbital plate (parafrontalia) linear, the latter and parafaciala grey dusted, parafrontalia with 7-8 frontal setae on lower half and with a few minute hairs on the upper, parafacialia is 1.2 times as wide as antennal flagellomere; antennae black, greyish with dusted on the flagellomere, the latter 2.5 times as long as wide, namely about twice long of the pedicellus, arista long plumose, bare in apical half; mid facial plate depressed, with a rudimentary facial carina, vibrissal angle slightly protruding beyond profrons or both on a vertical line; genal and postgenal hairs black, genal dilation not reaching by vibrissal angle, gena about a quarter as high as eye; palpi black and slender, prementum 5 times as long as own high, labella large.

Thorax. Ground color dark, bluish grey dusted, lacking of distinct markings or stripes; prescutum with 8 rows of setulae on median portion, acrostichals 1+3, dorsocentrals 2+3, intraalars 0+2, posthumeral 1:1, prealar seta is 1.5 times long of the posterior notopleural seta; scutellum concolorous with thorax, its median length slightly shorter than the length of scutellar sulcus, with a black median marking along the fore margin, lateral to the scutellar marginals with 2-3 rows of small hairs, both lateral and ventral surface of scutellum haired, but bare on the median part of ventral surface; proepisternal depression and katapimeron (beret) bare,

prothoracic basisternum, postalar wall (postalar declivity) and katatergite (inferior pleurotergite) haired; posterior spiracle in moderate size, brownish fuscous, katapisternal (sternopleura) setae 1:1; anterior tuft of setulae on suprasquamal ridge present, but the posterior tuft on the same and tuft on tympanic pit both absent. Wings yellow, semihyaline, tegula black, basicosta yellow to dark brown, costal vein bare on ventral surface except for basal two sections, costal spine short, radial stem vein bare, node of *Rs* haired above and below, *R*₄₊₅ vein bare above and below basally, *M* vein deeply curved forward in apical part and the distal section of the curvature is 1.5 times long of the proximal one, cell *2R*₅ opened just before the wing tip, and the opening slightly narrower than the length of *r-m* cross-vein; *dm-cu* (*m-m*) cross-vein obliquely sinuous; upper calypter light brown, lower one brownish fuscous, lobated and bare on dorsal surface; halteres light brown. Legs wholly black; fore femur with 1 row each of *pd* and *pv* setae, between them 4-5 rows of setulae are present; fore tibia with 2 *ad* both fine and 1 *P* seta; mid femur with a medial *a* and 1 row of *pv* setae, in which the basal 4 longer than others; mid tibia with 1 *ad* and 1 *av* both on apical half as well as 2 *P* setae; hind coxa bare on posterior surface; hind femur with 1 sparse row of setae each on *av* and *pv* surface, of them every seta on basal half longer, and with 1 dense row of setae on *ad*-surface; hind tibia with 4-5 *av*, 3 *ad* and 2 *pd*; tarsi normal. Abdomen black with metallic shine and thinly greyish white dust; 3rd to 5th tergites each decorated with a narrow black median vitta and with marginal setae, 6th tergite with hind marginal hairs; 1st sternite haired, the 2nd is slightly longer than own broad, 1st to 5th sternites all uncovered by respective tergites; 5th sternite remarkably projecting under the abdomen, with lateral lobes longer than the basal part and their posterior ends beyond the abdominal apex in situate and by inner margins of the lobes densely clothed with pale yellow curly-tipped long hairs, which compactly arranged each other, so they having an ochreous smoothish plank in appearance. Anal cerci distinctly shorter than the surstyli, phallosome with an epiphallus subbasal to basiphallus and longer than the latter, pregonite straightly rod-like, hypophallus expanding laterally when seen in posterior view.

♀ Unknown.

Holotype ♂, Mt. Erlang (Ganhaizi, 2780 m), 3 July 1988. Paratypes: 1 ♂, Ya'an (Mt. Jinfeng, 860m), 21 Aug. 1983; 1 ♂, Kangding (Mt. Paoma, 2800 m), 10 July 1983, all collected by FENG Yan, Sichuan, China.

Bionomics. On the hot sunny summer days, the males were collected on leaves of *Fargesia nitida*, or on the gravelly stone covered with the bryophytes in forest of

Pinus trees by the old mountainous passage for horse tea trade. It were 23 °C-32 °C in local air temperature and 28 °C-40 °C on the earth surface simultaneously.

Etymology. The species name is derived from the latin words *ventr* and *excerta*, referring to the male with an exerted ventrite (sternite) on 5th abdominal segment.

This new species is similar to *Nepalonesia fanzida* Feng 2002, but differs from the latter in: 1) 5th

sternite densely pale hairy by inner margins of lateral lobes, among the hairs no pendent ones are present, but with numerous curvely tipped hairs; 2) hind tibia with 4-5 *av*. The new species is also similar to *Nepalonesia pulchokii* Kurahashi *et* Thapa, 1994, but differs from the latter in: 1) the inner marginal hairs of lateral lobe of 5th sternite pale yellow, not wholly black; 2) cerci shorter than surstyli in posterior view; 3) hind tibia with 4-5 *av* instead of 2-3.

Key words Diptera, Calliphoridae, Melanomyini, *Nepalonesia*, new species, China.